

REMARKS

Claims 1-29 are pending in the present application. Claims 1-29 have been rejected. In the above amendments, claims 1, 3, 5, 9, 15, 21 and 27 have been amended.

Applicants respectfully respond to this Office Action.

A. Claims 3-4 and 27-29 Rejected under 35 U.S.C. § 102

The Examiner rejected claims 3-4 and 27-29 under 35 U.S.C. § 102(e) as being anticipated by Chuah et al, U.S. Patent No. 6,496,491 (hereinafter, "Chuah"). This rejection is respectfully traversed.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." M.P.E.P. § 2131 (July 1998) (citing Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). "The identical invention must be shown in as complete detail as is contained in the . . . claim." M.P.E.P. § 2131 (July 1998) (citing Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)). In addition, "the reference must be enabling and describe the applicants' claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention." In re Paulsen, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994).

Claim 3, as amended, recites a "method of simplifying Packet Control Function network element functionality" that includes the element of "maintaining a reduced entry PPP connection table that includes radio access network (RAN) PDSN interface (RPI) communication pipe identifiers." Chuah does not disclose this claim element.

The connection table of Table 4 in Chuah is "for each direction of communication for each established VPN session with a remote user." Chuah, Col. 6, lines 8-10. Chuah further states the following regarding Table 4:

Anchor LAC associates with each VPN session a connection number. In addition, this connection number is mapped to the respective user. This table lists, by connection number, the Serving LAC IP Address, with associated tunnel ID and

Call ID values for that hop, and the associated LNS IP Address, with associated tunnel ID and Call ID values for that associated hop.

Id. at lines 20-26. Chuah discloses a VPN connection table. Chuah's VPN connection table is not the same as the claimed "reduced entry PPP connection table that includes radio access network (RAN) PDSN interface (RPI) communication pipe identifiers." Thus, Chuah does not disclose "maintaining a reduced entry PPP connection table that includes radio access network (RAN) PDSN interface (RPI) communication pipe identifiers."

As set forth above, the Chuah reference does not disclose every element of claim 3. Claim 4 depends directly from claim 3. Thus, Applicants respectfully request that the rejection of claim 4 be withdrawn for at least the same reasons.

Claim 27 recites a "packet data services node" that "is configured to maintain Point to Point Protocol connection tables of dormant network connections associated with a mobile station" (emphasis added). Claim 27, as amended, further requires "a processor-readable medium accessible by the processor and containing a set of instructions executable by the processor to update the dormant network connection information associated with the mobile station, wherein the dormant network connection information is information relating to a connection that is not being used to transmit traffic channel data." (emphasis added). Chuah does not disclose these claim elements.

The Examiner has asserted that Chuah, Col. 14, lines 1-7 discloses dormant network connection information. See Final Office Action, pages 7-8. This portion of Chuah states the following:

In accordance with the inventive concept, PCS wireless network 910 adds to the existing call state variables additional variables indicating the presence (or lack thereof) of a PPP connection for each wireless call, and if a PPP connection exists, PPP connection information that includes the LNS identification, e.g., the IP address of the LNS.

Id., Col. 14, lines 1-7. The lack of a PPP connection is not the same as "dormant network connections." A dormant network connection is a connection. See Applicants' detailed

description, page 11, lines 6-7 (referring to PPP instances which were dormant as “not being used to transmit traffic channel data”). Col. 14 of Chuah discloses “additional variables” are added to the existing call state variables to indicate the presence “or lack thereof” of a PPP connection. Id., Col. 14, lines 3-4. A variable indicating a lack of a PPP connection is not the same as “Point to Point Protocol connection tables of dormant network connections associated with a mobile station”. In addition, it follows that the required claim element of “a processor-readable medium accessible by the processor and containing a set of instructions executable by the processor to update the dormant network connection information associated with the mobile station, wherein the dormant network connection information is information relating to a connection that is not being used to transmit traffic channel data” (emphasis added) is also not disclosed. Because Chuah does not disclose each and every element of Claim 27, Applicants request that the rejection of Claim 27 be withdrawn.

As set forth above, the Chuah reference does not disclose every element of claim 27. Claims 28-29 depend directly from claim 27. Thus, Applicants respectfully request that the rejection of claims 28-29 be withdrawn for at least the same reasons.

B. Rejection of Claims 1-2 and 5-26 Under 35 U.S.C. § 103(a)

The Examiner rejected claims 1-2 and 5-26 under 35 U.S.C. § 103(a) as being unpatentable over Chuah in view of Azam et al, U.S. Patent No. 6,167,260 (hereinafter, “Azam”). This rejection is respectfully traversed.

The M.P.E.P. states that

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

M.P.E.P. § 2142. A *prima facie* case of obviousness has not been established regarding claims 1-2 and 5-26 because the prior art cited does not teach or suggest all the claim limitations.

Claim 1, as amended, recites a method that includes the step of “transmitting from the second infrastructure element associated with the packet data services node a message including a number of dormant network connections associated with the mobile station and a reduced list of identifiers associated with the dormant network connections, wherein the dormant network connections are connections that are not being used to transmit traffic channel data.” The prior art cited does not teach or suggest these claim limitations.

The Examiner has asserted that Chuah, Col. 14, lines 1-7 discloses dormant network connections. See Final Office Action, pages 7-8. This portion of Chuah states the following:

In accordance with the inventive concept, PCS wireless network 910 adds to the existing call state variables additional variables indicating the presence (or lack thereof) of a PPP connection for each wireless call, and if a PPP connection exists, PPP connection information that includes the LNS identification, e.g., the IP address of the LNS.

Id., Col. 14, lines 1-7. The lack of a PPP connection is not the same as “dormant network connections . . . that are not being used to transmit traffic channel data.” A dormant network connection is a connection. See Applicants’ detailed description, page 11, lines 6-7 (referring to PPP instances which were dormant as “not being used to transmit traffic channel data”). In Col. 14 of Chuah it discloses that “additional variables” are added to the existing call state variables to indicate the presence “or lack thereof” of a PPP connection. Id., Col. 14, lines 3-4. A variable indicating a lack of a PPP connection is not the same as nor does it teach or suggest a “message

including a number of dormant network connections”. Chuah does not teach or suggest a “message including a number of dormant network connections” and “wherein the dormant network connections are connections that are not being used to transmit traffic channel data.”

Chuah further does not teach or suggest “transmitting from the second infrastructure element associated with the packet data services node a message including a number of dormant network connections associated with the mobile station.” The Examiner has not provided any assertions or support that Chuah teaches or suggests this claim limitation.

Chuah also does not teach or suggest the required element of “a reduced list of identifiers associated with the dormant network connections.” The Examiner appears to recognize this in the Final Office Action. See Final Office Action, page 8 (stating that “Chuah . . . may not specifically disclose transmitting a reduced list of identifiers associated with dormant network connections.”)

The above has shown that Chuah does not teach or suggest the step of Claim 1 of “transmitting from the second infrastructure element associated with the packet data services node a message including a number of dormant network connections associated with the mobile station and a reduced list of identifiers associated with the dormant network connections, wherein the dormant network connections are connections that are not being used to transmit traffic channel data.” The following will illustrate that Azam also does not teach or suggest these claim limitations.

As the title suggests, Azam is a “method for demand channel change for a radio telephone.” Azam, Title. Azam deals with changing channels:

The system provides a user initiated channel change that permits the user to request a channel change when the user perceives that received signal quality is poor. In radiotelephone systems having inter sector handoff, the user requested channel change can result in either inter sector handoff or an intra sector channel change. The system and method provides the user with more flexibility in initiating channel changes.

Azam, Col. 2, lines 25-32. Nowhere does Azam teach or suggest a “packet data services node” as claimed. Item 152 in Figure 2 of Azam is the public switched telephone network. Azam,

Figure 2. The public switched telephone network is not a “packet data services node” as claimed, nor does it teach or suggest a “packet data services node”.

The Examiner has asserted that Azam, Col. 5, lines 7-24 disclose dormant network connections associated with the mobile station. See Final Office Action, pages 8-9. This portion of Azam states the following:

Alternatively, the list of signal channels transmitted by the central device 104 can be a list inactive channels available to the central device 104. The central device 104 controller 148 controls the transmitter 140 to transmit carrier signals on each of the inactive channels. The radiotelephone can then scan these channels to identify channels having a signal strength measurement above a predetermined minimum level. The minimum level can be set to 10 to 20 dB above the noise floor. The noise floor is the expected level of noise in a non-active channel. For example, where the noise floor is -115 dB, the threshold can be -105 dB. When the RSSI measurement for a channel is above -105 dB, such as being measured to be -90 dB, that channel can be selected. The actual threshold level may be set at any value desired. The radiotelephone 102 controller 110 can then identify the best channel, which is the channel having the highest measurement that is above the minimum threshold, and transmit that channel number to the central device 104, in block 226.

Azam, Col. 5, lines 7-24. A list of inactive channels is not the same as “dormant network connections,” nor does it suggest “dormant network connections. . . that are not being used to transmit traffic channel data.” As pointed out above, Azam does not disclose, teach or suggest any “packet data services nodes” or any transmission of packets. Thus, Azam does not disclose, teach or suggest any network connections and therefore cannot teach or suggest any “dormant network connections”.

Azam further does not teach or suggest “transmitting from the second infrastructure element associated with the packet data services node a message including a number of dormant network connections associated with the mobile station.” The Examiner has asserted that Azam discloses this element by the following:

If it was determined in block 302 that the central device 104 has at least one other channel available for communicating with the radiotelephone 102, the controller 148 controls transmitter 140 to transmit a signal to radiotelephone 102 requesting that the radiotelephone conduct a channel scan, as indicated in block 314. This signal can include a list of certain channels to scan. The list of channels comprises those channels in the same sector as the radiotelephone 102 that have an active call or a list of channels upon which the central device will generate a carrier signal.

Azam, Col. 6, lines 14-23. A signal transmitted to the radiotelephone requesting that it conduct a channel scan is not “transmitting from the second infrastructure element associated with the packet data services node a message including a number of dormant network connections associated with the mobile station,” nor does it teach or suggest it. Furthermore, as shown above, Azam does not teach or suggest any network connections and therefore cannot teach or suggest any “dormant network connections . . . that are not being used to transmit traffic channel data.”

Azam does not teach or suggest “sending a second message from the infrastructure element (104) including a reduced list of identifiers or enhanced information associated with the dormant connections.” Final Office Action, Page 9. The Examiner has pointed to the following section of Azam to support this assertion:

If the radiotelephone 102 responds to the scan request by denying radiotelephone channel scanning, as detected at decision block 316, the controller 148 will proceed to block 318. In block 318 controller 148 controls transmitter 140 to send a signal instructing the radiotelephone 102 to change to a new channel. The new channel can be the channel sequentially closest to the channel that the radiotelephone 102 was using when the channel change request was made. The new channel can alternately be a channel having a frequency substantially different from the frequency of the channel that the radiotelephone was using. By picking a new channel with a frequency much different from the previous channel, instead of automatically selecting the next sequential channel, frequency sensitive characteristics of the radiotelephone receiver, or the interfering noise, that induced

the user to request a channel change, is less likely to detrimentally affect the new channel. Following the channel change grant, the subroutine ends.

Azam, Col. 6, lines 23-41. The transmitter 140 sending “a signal instructing the radiotelephone 102 to change to a new channel” is not “a message” including “a reduced list of identifiers associated with the dormant network connections, wherein the dormant network connections are connections that are not being used to transmit traffic channel data” as claimed. Neither does Azam’s change-to-a-new-channel signal teach or suggest this claim limitation.

The above has shown that neither Chuah or Azam teach or suggest the step of Claim 1 of “transmitting from the second infrastructure element associated with the packet data services node a message including a number of dormant network connections associated with the mobile station and a reduced list of identifiers associated with the dormant network connections, wherein the dormant network connections are connections that are not being used to transmit traffic channel data.”

As shown, the combination of Chuah and Azam does not result in Applicants’ claimed invention. Moreover, the Examiner has presented no motivation to combine the references. Specifically, the Examiner has not presented any motivation to take elements from Chuah, which is directed toward a mobile point-to-point protocol, and combine them with Azam, which is a system for demand channel change for a radio telephone. Still further, there is no explanation of how one of ordinary skill in the art would combine these two different systems; therefore, the Examiner has provided no expectation of success in such a combination. To that end, the Examiner has relied on hindsight having been presented with Applicants’ invention, which is not permitted.

Claim 2 depends directly from claim 1. Thus, Applicants respectfully request that the rejection of claim 2 be withdrawn for at least the same reasons.

Claim 5 recites a “method of optimizing the Air Interface traffic channel resources in a communications network” that includes the step of “transmitting from the mobile station a message including a number of dormant network connections associated with the mobile station and enhanced information associated with the dormant network connections when the mobile station moves from a first infrastructure element of the packet data services network to a second

infrastructure element, wherein the dormant network connections are connections that are not being used to transmit traffic channel data.” The prior art cited does not teach or suggest these claim limitations.

Chuah does not disclose “dormant network connections” that “are connections that are not being used to transmit traffic channel data.” As more fully argued above, a variable indicating the lack of a PPP connection in Chuah is not the same as “dormant network connections” as claimed. A dormant network connection is a connection. See Applicants’ detailed description, page 11, lines 6-7 (referring to PPP instances which were dormant as “not being used to transmit traffic channel data”). In Col. 14 of Chuah it discloses that “additional variables” are added to the existing call state variables to indicate the presence “or lack thereof” of a PPP connection. Id., Col. 14, lines 3-4. A variable indicating a lack of a PPP connection is not the same as nor does it teach or suggest a “message including a number of dormant network connections” that “are connections that are not being used to transmit traffic channel data.” Chuah does not teach or suggest a “message including a number of dormant network connections” that “are connections that are not being used to transmit traffic channel data.”

Chuah also does not teach or suggest the required element of “enhanced information associated with the dormant network connections.” The Examiner appears to recognize this in the Final Office Action. See Final Office Action, page 8 (stating that “Chuah . . . may not specifically disclose transmitting a reduced list of identifiers associated with dormant network connections,” and no assertions that Chuah discloses enhanced information associated with the dormant network connections).

Turning again to the Azam reference, Azam is a “method for demand channel change for a radio telephone.” As more fully argued above, nowhere does Azam teach or suggest a “packet data services network” as claimed (“when the mobile station moves from a first infrastructure element of the packet data services network to a second infrastructure element”). Item 152 in Figure 2 of Azam is the public switched telephone network. Azam, Figure 2. The public switched telephone network is not a “packet data services network” as claimed, nor does it teach or suggest a “packet data services network”.

The Examiner has asserted that Azam, Col. 5, lines 7-24 disclose dormant network connections associated with the mobile station. See Final Office Action, pages 8-9. This portion of Azam states the following:

Alternatively, the list of signal channels transmitted by the central device 104 can be a list inactive channels available to the central device 104. The central device 104 controller 148 controls the transmitter 140 to transmit carrier signals on each of the inactive channels. The radiotelephone can then scan these channels to identify channels having a signal strength measurement above a predetermined minimum level. The minimum level can be set to 10 to 20 dB above the noise floor. The noise floor is the expected level of noise in a non-active channel. For example, where the noise floor is -115 dB, the threshold can be -105 dB. When the RSSI measurement for a channel is above -105 dB, such as being measured to be -90 dB, that channel can be selected. The actual threshold level may be set at any value desired. The radiotelephone 102 controller 110 can then identify the best channel, which is the channel having the highest measurement that is above the minimum threshold, and transmit that channel number to the central device 104, in block 226.

Azam, Col. 5, lines 7-24. A list of inactive channels is not the same as “dormant network connections,” nor does it suggest “dormant network connections” that “are connections that are not being used to transmit traffic channel data.” A dormant network connection is a connection. See Applicants’ detailed description, page 11, lines 6-7 (referring to PPP instances which were dormant as “not being used to transmit traffic channel data”). As pointed out above, Azam does not disclose, teach or suggest any “packet data services network” or any transmission of packets. Thus, Azam does not disclose, teach or suggest any network connections and therefore cannot teach or suggest any “dormant network connections”.

As argued above, Azam further does not teach or suggest “transmitting from the second infrastructure element a message including a number of dormant network connections associated with the mobile station” and “wherein the dormant network connections are connections that are

not being used to transmit traffic channel data.” The Examiner has asserted that Azam discloses this element by the following:

If it was determined in block 302 that the central device 104 has at least one other channel available for communicating with the radiotelephone 102, the controller 148 controls transmitter 140 to transmit a signal to radiotelephone 102 requesting that the radiotelephone conduct a channel scan, as indicated in block 314. This signal can include a list of certain channels to scan. The list of channels comprises those channels in the same sector as the radiotelephone 102 that have an active call or a list of channels upon which the central device will generate a carrier signal.

Azam, Col. 6, lines 14-23. A signal transmitted to the radiotelephone requesting that it conduct a channel scan is not “transmitting from the second infrastructure element a message including a number of dormant network connections associated with the mobile station,” nor does it teach or suggest it. Furthermore, as shown above, Azam does not teach or suggest any network connections and therefore cannot teach or suggest any “dormant network connections” as claimed. The Examiner’s argument that it would have been obvious to combine Chuah and Azam to result in “transmitting from the mobile station” relies on the assumption that Chuah combined with Azam teaches “transmitting from the second infrastructure element a message”, which it does not, as shown and argued above. Therefore, Azam does not teach or suggest “transmitting from the mobile station a message including a number of dormant network connections.”

Azam does not teach or suggest “transmitting from the mobile station a message including . . . enhanced information associated with the dormant network connections.” The Examiner has pointed to the following section of Azam to support this assertion:

If the radiotelephone 102 responds to the scan request by denying radiotelephone channel scanning, as detected at decision block 316, the controller 148 will proceed to block 318. In block 318 controller 148 controls transmitter 140 to send a signal instructing the radiotelephone 102 to change to a new channel. The new channel can be the channel sequentially closest to the channel that the

radiotelephone 102 was using when the channel change request was made. The new channel can alternately be a channel having a frequency substantially different from the frequency of the channel that the radiotelephone was using. By picking a new channel with a frequency much different from the previous channel, instead of automatically selecting the next sequential channel, frequency sensitive characteristics of the radiotelephone receiver, or the interfering noise, that induced the user to request a channel change, is less likely to detrimentally affect the new channel. Following the channel change grant, the subroutine ends.

Azam, Col. 6, lines 23-41. The transmitter 140 sending “a signal instructing the radiotelephone 102 to change to a new channel” is not “a message” including “enhanced information associated with the dormant network connections” as claimed. Neither does Azam’s change-to-a-new-channel signal teach or suggest this claim limitation.

The above has shown that neither Chuah or Azam teach or suggest the step of Claim 5 of “transmitting from the mobile station a message including a number of dormant network connections associated with the mobile station and enhanced information associated with the dormant network connections when the mobile station moves from a first infrastructure element of the packet data services network to a second infrastructure element, wherein the dormant network connections are connections that are not being used to transmit traffic channel data.”

As shown, the combination of Chuah and Azam does not result in Applicants’ claimed invention. Moreover, the Examiner has presented no motivation to combine the references. Specifically, the Examiner has not presented any motivation to take elements from Chuah, which is directed toward a mobile point-to-point protocol, and combine them with Azam, which is a system for demand channel change for a radio telephone. Still further, there is no explanation of how one of ordinary skill in the art would combine these two different systems; therefore, the Examiner has provided no expectation of success in such a combination. To that end, the Examiner has relied on hindsight having been presented with Applicants’ invention, which is not permitted.

Claims 6-8 depend directly or indirectly from claim 5. Thus, Applicants respectfully request that the rejection of claims 6-8 be withdrawn for at least the same reasons.

Claim 9 recites a “mobile station configured to inform a packet data services network of dormant network connections associated with the mobile station” that includes the element of “a set of instructions executable by the processor to modulate and transmit from the mobile station a message including a number of dormant network connections associated with the mobile station and a reduced list of identifiers associated with the dormant network connections when the mobile station moves from the first infrastructure element of the packet data services network to the second infrastructure element, wherein the dormant network connections are connections that are not being used to transmit traffic channel data.” As shown above, the prior art cited does not teach or suggest these claim limitations.

Claims 10-14 depend directly or indirectly from claim 9. Thus, Applicants respectfully request that the rejection of claims 10-14 be withdrawn for at least the same reasons.

Claim 15 recites a “mobile station configured to inform a packet data services network of dormant network connections associated with the mobile station” that includes the element of “a device configured to transmit from the mobile station a message including a number of dormant network connections associated with the mobile station and a reduced list of identifiers associated with the dormant network connections when the mobile station moves from the first infrastructure element of the packet data services network to the second infrastructure element, wherein the dormant network connections are connections that are not being used to transmit traffic channel data.” As shown above, the prior art cited does not teach or suggest these claim limitations.

Claims 16-20 depend directly or indirectly from claim 15. Thus, Applicants respectfully request that the rejection of claims 16-20 be withdrawn for at least the same reasons.

Claim 21 recites a “mobile station configured to inform a packet data services network of dormant network connections associated with the mobile station” that includes the element of “means for transmitting from the mobile station a message including a number of dormant network connections associated with the mobile station and a reduced list of identifiers associated with the dormant network connections when the mobile station moves from the first infrastructure element of the packet data services network to the second infrastructure element, wherein the dormant network connections are connections that are not being used to transmit

traffic channel data.” As shown above, the prior art cited does not teach or suggest these claim limitations.

Claims 22-26 depend directly or indirectly from claim 21. Thus, Applicants respectfully request that the rejection of claims 21-26 be withdrawn for at least the same reasons.

REQUEST FOR ALLOWANCE

Applicants submit that the claims in the application are patentable. Accordingly, reconsideration and allowance of claims 1-29 are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

Dated: 2/17/2004

By: Sandra L. Godsey
Sandra L. Godsey, Reg. No. 42,589
(858) 651-4517

QUALCOMM Incorporated
5775 Morehouse Drive
San Diego, California 92121
Telephone: (858) 651-4125
Facsimile: (858) 658-2502